

ABSTRACT

The present invention provides a retrieval unit for a microarray processing device to transport a workpiece such as a microscope slide before or after processing operations by the microarray processing device. The retrieval unit may include a storage unit and a lifter unit. The storage unit has a storage frame, a storage rack and a first motor. The storage rack is adapted to store microscope slides. The storage rack is mounted to the storage frame and capable of sliding in a first plane by the first motor. The lifter unit has a loader frame, a loader arm and a second motor. The loader arm is mounted to the loader frame and capable of sliding in a second plane by the second motor. The loader arm is capable of accessing a selected microscope slide from the storage rack. The loader arm uses a vacuum chuck to retain the microscope slide on the loader arm. The loader arm may also have a motor to enable it to extend the vacuum chuck below the bottom surface of a microscope slide. After the microscope slide is secured to the loader arm, the microscope slide may be transported from the storage rack to a selected workstation such as an alignment mechanism. The retrieval unit is automated by having a computer control the operations of the motors. The present invention also includes a method within a microarray processing machine for retrieving a microscope slide in a storage rack and transporting the microscope slide to a workstation such as an alignment mechanism.

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